

Interconnected Web Lesson Story (V1 longer version) 4th and 5th grade

Teaching Point: Using Story as an interactive way to explore Mangini Educational Preserve’s location, history, flora and fauna, students learn the significance of how all things are connected.

Cross Cutting Concepts: Patterns, cause and effect, structure and function

NGSS/Social Studies links for 3-5 grade

Principles of Ecology: Nested Systems, Cycles, Dynamic Balance, systems and models

Time: 25 minutes

Materials: Placards with various words used in the story and a corresponding image (set of 26), rope or thicker cord

	Lesson Script
Set	<p>DIRECTIONS: Have all students begin sitting in a circle or half circle facing the narrator, best if cards are not too shuffled. Hand a placard to each participant (26 in deck- If the group is larger, students can be paired to read from a card. For smaller groups, hand out only the cards you think are most pertinent).</p> <p>The leader will have one rope or thicker cord coiled up and as she reads the story each participant will stand up, join the cord, and read their card to the group. Continue until all students are joined in the circle and the story is complete.</p>
Teach	<p><i>Today, you are going to listen to and actively be part of the story I read to you. I am going to give each of you a card with one or two of the key words from the story on it. When you hear me read your word, you will come to join the group holding the twine. Grasp the twine and when I tell you to <u>read your word aloud to the group and then on the back of the card, you will read the short caption of information to us.</u> Once you have read your card, you will stay with the group holding the twine.”</i></p>
Active Engagement	<p>Read the attached story and have students join in the circle and share the ideas on their placard.</p>
Link <i>Transfers back to student work and encourages accountability</i> <i>10 minutes</i>	<p>See story’s last paragraph.</p>

Interconnected Lesson Story

*Optional Read Land Acknowledgement and then start the story at the **

About 10,000 years ago indigenous peoples traveled through this beautiful space and took care of the land that took care of them. The Bay Miwok and Chupcan tribes were among them. *As hunter-gatherers, these tribes relied heavily on the bounty of the land. They moved across the varied terrain with the seasons and collected berries, pine nuts, acorns, and herbs. They used digging sticks to harvest bulbs like those of the soap plant. Brushes were made from the fibrous outer covering of the bulb and the bulb was used to stun fish for easier fishing.

The rich soil, mild climate and varied ecosystems provided enough, and tribes chose to tend the land without harming it. Up to 300,000 indigenous people thrived in what is today California. They relied heavily on the oak woodlands for food and to make baskets, tools and fish traps. These woodlands were extremely important to wildlife as well.

Save Mt. Diablo welcomes indigenous tribes to these lands today. We have much to learn from them in caring for our lands.

On our hike today we saw many oaks. In the fall the indigenous peoples knocked down acorns from the trees and collected them in large baskets. Some were stored in granaries; others were turned into acorn flour. This was a time-consuming process where the acorn was shelled, the meat pounded by mortar and pestle and then the bitter tannic acid was removed with water in a process called leaching. The acorn meal was cooked into a soup, baked as bread and was very nutritious. The acorn was the staple of the diet, and a family could consume 500 or more pounds of acorns a year. The gray squirrel may have become curious and jealous with so many people competing for his favorite food. Not to mention the acorn woodpecker.

In the late 1700's the Spanish colonists arrived, built farms and ranches and significantly changed the landscape. The population of the indigenous people plummeted as foreigners forced the tribes off their land into missions, brought diseases, polluted the streams, and cleared the forests. Perennial bunchgrasses were replaced by the annual grasses we see today as cattle and their food were introduced. Plants from that era are still seen today - like field mustard, oat grass and thistles.

The land around the sacred peak that the Ohlone called Tuyshtak or “dawn of time” became what we now call today Mount Diablo.

In winter when rain abounds, the tributaries swell and feed the headwaters of Galindo Creek. Here Guiseppe Mangini decided to settle and establish Mangini Family Ranch. The hillsides of the property brighten green as the grasslands sprout anew from last year’s seed. This provides good grazing for cattle and is a time to enjoy the wildflowers. Look for yarrow and lupine and bright orange California poppy. If you sit quietly for a while, you may hear the squeak of a ground squirrel as it zigzags across the grasslands. Could it be that the common raven circling above gave it a scare? A blue oak woodland is a great place to find the California buttercup. Beware of poison oak which grows in many areas especially in the shade near creeks. This plant can cause an itchy rash for us but is very important to wildlife as a food source or hiding place.

When you travel up the creek in the riparian zone, you will enjoy the shade of the California Buckeye and on the moist banks you will spot ferns like the Maidenhair fern. A cool breeze will carry the scent of the California Bay Laurel. Miner’s Lettuce will abound in the shaded moist clay soils. The soil we walk upon and take for granted is the foundation of life. Soils themselves are made up of many tiny microorganisms including fungi. The fungi are decomposers that recycle and break down the dead debris so that new plants and life can spring forward.

Across the way, high in the blue sky a kestrel hovers above the slope of coyote brush. Could it be honing in on an Alameda whipsnake? Or is its prey more likely an insect? On our way back we will descend through a rare desert olive grove. If we have time and the season is right, we can plant narrow-leaved milkweed, either here on site, back at school, or at home.

Big or small, we are ALL important and interconnected. We need to take care of each other from the ground up, let’s strengthen our kinship with nature and pledge to protect all beings.

Optional: Add the following quote which reinforces the circle of interconnectedness and gratitude. Great prelude to service work on the site

In the words from the botanist Robin Wall Kimmerer, Citizen of the Potawatomi Nation and author of Braiding Sweetgrass:

"In a culture of gratitude, everyone knows that gifts will follow the circle of reciprocity and flow back to you again. This time you give and next time you receive. Both the honor of giving and the humility of receiving are necessary halves of the equation. The grass in the ring is trodden down in a path from gratitude to reciprocity. We dance in a circle, not in a line."